

JAPAN

EDICT OF GOVERNMENT

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JIS B 6601 (1983) (English): Safety standards for construction of single surface planers

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*The citizens of a nation must
honor the laws of the land.*

Fukuzawa Yukichi

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JAPANESE INDUSTRIAL STANDARD

**Safety Standards for Construction
of Single Surface Planers**

JIS B 6601—1983

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standard in Japanese is to be evidence

JAPANESE INDUSTRIAL STANDARD

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Safety Standards for Construction of
Single Surface Planers

B 6601-1983

1. Scope

This Japanese Industrial Standard specifies construction for safety, safety devices, instruction manuals, inspection data sheets and marking on the automatic single surface planers, hereinafter referred to as the "planers" ⁽¹⁾.

Note ⁽¹⁾ Refer to JIS B 0114.

2. Definitions

For the purposes of this standard the following definitions apply.

- (1) cutter block A block of which cutter heads are mounted to a main spindle or integrated with the spindle.
- (2) chip breaker A device which forces workpieces downward just before the cutter block (see Fig. 2) to prevent the springing of them, and at the same time, guides wood chips outward.
- (3) pressure bar A device which forces workpieces downward just behind the cutter block (see Fig. 2) to prevent the springing of them.

Applicable Standards:

JIS B 0114-Glossary of Terms for Wood Working Machinery

JIS B 0905-Balance Quality of Rotating Machinery

JIS B 4709-Planer Knives for Wood Working Machines

JIS G 3101-Rolled Steel for General Structure

JIS G 4051-Carbon Steels for Machine Structural Use

JIS G 5501-Gray Iron Castings

Reference Standards:

JIS B 6502-Test Code for Performance and Accuracy of Wood Planers

JIS B 6507-General Code of Safety for Wood Working Machinery

- (4) backward movement A movement in which workpieces, due to the rotation of cutters and the like, are violently pushed back in the approximately opposite direction of their feed or they are sprung up.
- (5) effective width of cutting The maximum width which the planer can actually cut.

3. Construction for Safety

3.1 Frame and Bed The frame and the bed shall be as follows:

- (1) The frame and the bed shall be so constructed that the planers can be installed securely and easily.
- (2) When the planing and moulding machine is rotated, with the largest usable cutter attached, at the maximum speed under no load, no excessive vibration shall be caused.

3.2 Cutter Block The cutter block shall be as follows:

- (1) The materials of the circular cutter block and the knife chip breakers shall be S 45 C of JIS G 4051 or those having equivalent or superior mechanical properties, and the tip end of the knife chip breakers shall be subjected to quenching, tempering and other treatments to enhance abrasion resistance.
- (2) The materials of the square cutter block shall be S 35 C of JIS G 4051 or those having equal or superior mechanical properties it, and the tip end of the knife chip breakers shall be subjected to quenching, tempering and other treatments to enhance abrasion resistance.
- (3) The balance quality shall be of two-plane balancing, and shall be of Grade G 6.3 or over specified in JIS B 0905.

3.3 Fitting Part of Knife Cutters The construction of the fitting part of knife cutters shall be as follows (see Fig. 1):

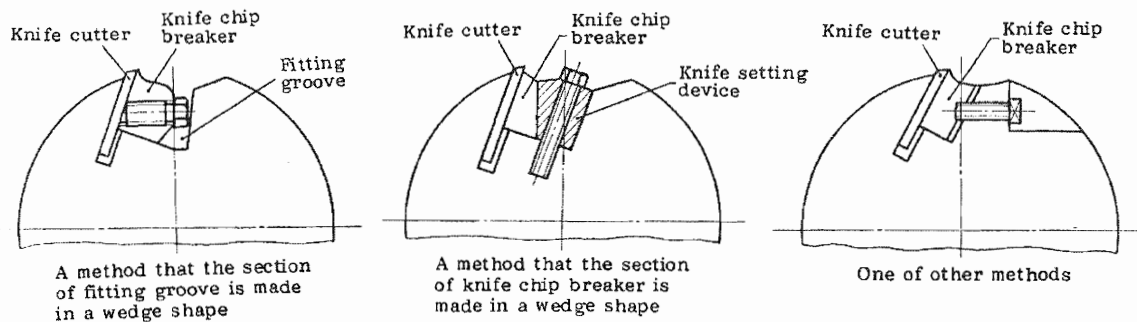
- (1) The fitting part of knife cutters shall be so constructed that the knife cutters do not spring out by centrifugal force, by making the fitting grooves of the cutter block or the section of the knife setting devices into a wedge shape or by some other means.

Furthermore, when knife cutters of Type A specified in JIS B 4709 are used, at least one slot with an enclosed curve shall be provided at each end of the knife.

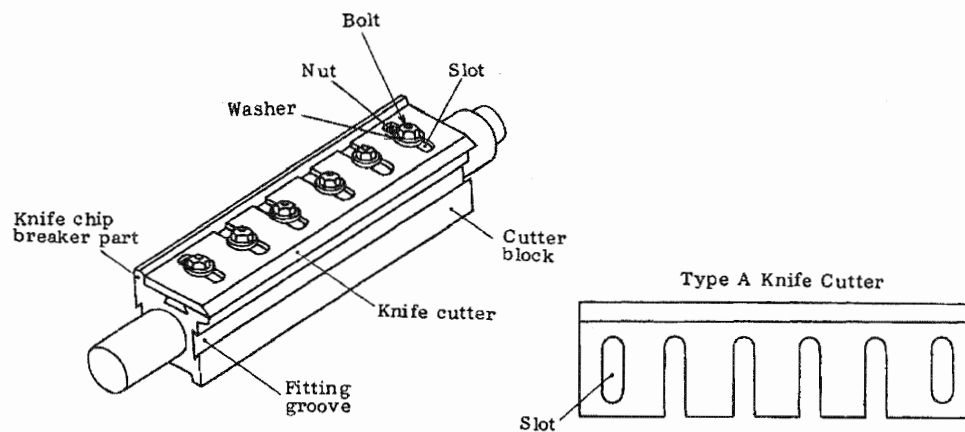
- (2) The knife chip breakers used for the knife cutters of Type B specified in JIS B 4709 shall be so constructed that they can be fitted with tip end not protruding 2 mm or over from the outer periphery of the cutter block.

Fig. 1. Fitting Portion of Knife Cutter

(a) Circular Cutter Block



(b) Square Cutter Block



Remark: Figure gives an example, and does not specify the construction.

3.4 Fixing Device of Cutter Block The fixing device of cutter block shall be capable of fixing the cutter block at any required position when exchanging knife cutters.

3.5 Table or Cutter Block Elevating Device The table or cutter block elevating device shall be so constructed and mechanized that the table or cutter block does not ascend and descend by vibration, impact and others during the operation of planers.

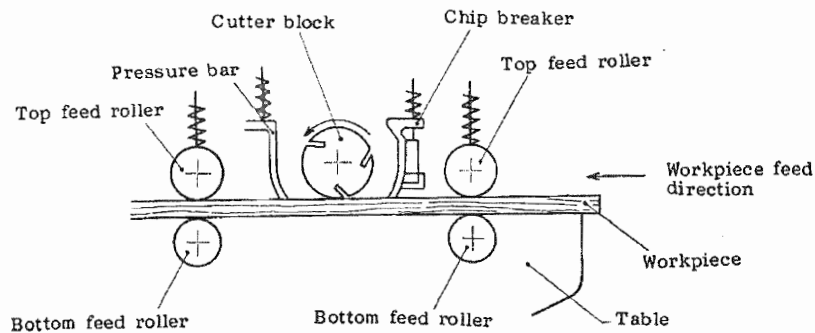
3.6 Chip Breaker and Pressure Bar The chip breaker and the pressure bar shall be as follows (see Fig. 2):

- (1) The materials shall be FC 20 of JIS G 5501 or those having equivalent or superior mechanical properties.
- (2) These devices shall be so constructed that there is no possibility of their touching the knife cutters even when these are pushed up by workpieces or their position is adjusted.
- (3) These shall be capable of exerting sufficient pressure to workpieces so far as the feed of workpiece is not restrained.

3.7 Feed Roller The feed rollers shall be as follows (see Fig. 2):

- (1) The materials shall be SS 41 of JIS G 3101, or those having equivalent or superior mechanical properties. The materials of the split type feed rollers shall be FC 20 of JIS G 5501 or those having equivalent or superior mechanical properties. However, in the case where workpieces are liable to be damaged, any coating material with large friction coefficient may be applied on the surface of the rollers.
- (2) At least one top feed roller shall be provided on the front and on the rear of the cutter block, and shall be capable of applying sufficient pressure to workpieces.
- (3) The length of the roller shall be approximately equal to that of the cutter block.

Fig. 2. Chip Breaker, Pressure Bar and Feed Roller



Remark: Figure gives an example, and does not specify the construction.

3.8 Cover of Top Feed Roller The top feed rollers shall be wholly covered except the portion necessary to feed workpieces and a sufficient distance shall be kept between the front face of the roller cover and the roller on the feed-in side to prevent the operator's hands from being caught under rollers.

3.9 Covers The rotating members such as pulleys, belts, and gears shall be provided with covers at the portions which may cause a danger of operator's touch.

3.10 Power Breaking Device The power breaking device shall be as follows:

- (1) The device shall be so located that the operator can operate the device without leaving his working position.
- (2) The device shall be easy to operate and there shall be no possibility that the machine starts suddenly due to contact, vibration and the like.

3.11 Braking Device The planer shall be provided with a braking device which stops the inertial rotation of the cutter block when the power supply is cut off.

3.12 Excessive Cutting Prevention The planer shall have construction or mechanism for arresting any cutting exceeding the cutting allowance permitted to the planer.

3.13 Discharge of Chips The planer shall be provided with a guide for discharging chips or a hood for collecting dust.

4. Safety Device

The planer shall have the function or mechanism for safety which is capable of preventing the backward movement or overrunning of workpieces.

5. Instruction Manual

The planer shall be furnished with an instruction manual in which shall be enumerated the items necessary for securing safety, such as the type, specifications, construction, tools, operations, maintenance, checking, adjustment, installation, and others.

6. Inspection Data Sheet

The planer shall be fitted with inspection data sheets (inspected items and their results).

7. Marking

The planer shall be marked with the following information on a conspicuous place in an indelible way.

- (1) Manufacturer's name
- (2) Year and month of manufacture or serial number
- (3) Type
- (4) Rated output or rated current
- (5) Rated voltage
- (6) No load rotation speed of main spindle (in the case of the planer having a speed change mechanism, no load rotation speed according to steps of speed change)
- (7) Feed speed (in the case of the planer having speed change mechanism, feed speeds according to steps of speed change)
- (8) Length and effective cutting width of cutter block

